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NOTES ON LOPHOCARDIUM FISCHER.

BY W. H. DALL.

Any one who has been interested in the *Cardiacea* will remember the beautiful shell described by Adams and Reeve in the Mollusca of the voyage of the "Samarang," under the name of *Cardium Cumingi*. This lovely shell is elongated, inflated, rose-red, anteriorly nearly smooth and posteriorly moderately sculptured. As described and figured the most remarkable feature is that the vertical ridge, which in all *Cardiacea* separates the generally diverse sculpture of the posterior area from the rest of the surface, is remarkably high and elevated while the rest of the sculpture is faint. No other species has so prominent a ridge, but nearly all species have a ridge of some sort. On this account Dr. Fischer in his recent Manual (p. 1038, 1887) proposed for this shell the sectional name of *Lophocardium*, in the subgenus *Papyridea* Swainson.

On the voyage of the U. S. Fish Commission steamer *Albatross* to California, another species of *Lophocardium* was dredged in 25 fathoms off the coast of Lower California, near Cerros Island. This shell is 30.0 mm. long and 25.5 mm. high with a maximum diameter of 12 mm. It gapes behind as in *Fulvia*, is of a delicate salmon-pink, with a thin brownish epidermis. The posterior area is reticulated, the somewhat irregular concentric lamellæ being sparser and higher than the radii, and with the epidermis produced on their edges. The radial bounding ridge is notched and much less prominent than in *C. Cumingi*, in fact is not more elevated than in many other *Cardiacea*, and is fringed with epidermis. The area in front

of it comprises more than five-sixths of the whole surface of the valve and is finely obscurely reticulated by flat, little elevated, broad radii and faint concentric waves; much as in *Cardium peramabilis*. The epidermis rises in thin distant irregular concentric lamellæ.

The most surprising feature of the shell—which, as far as I have been able to discover, is not paralleled in any other species, recent or fossil—is the total absence of lateral teeth. They are not obsolete or obscure, there is simply no trace of them; while the cardinal teeth are well developed and even rather long, and of the normal character. In the right valve the cardinal margin extends backward as a narrow angle or ridge; not elevated, but narrow like the mark on a piece of paper which has been opened after being folded. In front, on the same valve, there is nothing of this; nor on either side of the hinge in the other valve.

On writing to Mr. E. A. Smith of the British Museum, he kindly examined the original (and still unique) type of *C. Cumingi* and reported that it has a hinge identical with our new species.

It is very extraordinary that neither Adams nor Reeve should have noticed this, and no one since has observed it.

The new form which will be called *C.* (*Lophocardium*) *Annettæ*, will be more fully described and figured in the "Report on the *Albatross* Voyage," now in preparation.

It contained the soft parts which resemble those of other Cardiums except that the siphonal septum is remarkably prolonged forward, to and around the foot thus separating the mantle-cavity below the visceral mass, into an anal and a branchial chamber. The septum is membranous, thin, and only perforated for the passage of the foot. The gills are large and normal.

It is evident therefore that the section *Lophocardium* will take subgeneric rank in the genus *Cardium*, and be characterized by the absence of lateral teeth, the prolonged siphonal septum, and the prominent radial lamina. Both the species now known are from the west coast of subtropical America, and each represented by a single perfect specimen.

A NEW CALIFORNIAN HELIX.

BY H. A. PILSBRY.

H. (Triodopsis) Roperi Pilsbry.

Shell broadly umbilicated, flattened, subdiscoidal, resembling in